

## **II. REMARKS**

Claims 15 through 57 are pending, and claims 15 and 45 are currently amended herein to more clearly define the subject matter of the invention and thereby place all of the claims remaining in the application in condition for allowance. Applicants gratefully acknowledge the Examiner's approval of the substitute Specification and Abstract and the Replacement Pages of Drawings filed January 27, 2005. Applicants respectfully assert that all claim amendments herein are well supported by the original provisional patent application filing, that no new matter was presented, and that such amendments are deemed unobjectionable. Entry thereof is respectfully requested. It is also respectfully requested that the Examiner reconsider the present application and claims as currently pending in view of the following remarks.

### **A. Claim Rejections under 35 U.S.C. § 101**

#### **The Rejection**

Claims 15-57 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. The Office Action sets forth a "two prong" test, allegedly evident *In re Toma*, 197 USPQ 852 (CCPA 1978). According to one prong of the two prong test, the Office Action states that that "...even if an invention incorporates abstract ideas, such as mathematical algorithms, the invention may nevertheless be statutory subject matter if the invention as a whole produces a 'useful, concrete and tangible result'" citing *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 47 USPQ2d 1596 (Fed. Cir. 1998). According to the other of the two prongs, the Office Action states that another "...test of whether an invention is eligible for a patent is to determine if the invention is within the 'technological arts'", citing, *inter alia*, *In re Musgrave*, 167 USPQ 280 (CCPA 1970).

According to the Office Action, the Applicants' claims satisfy one prong, but fail to satisfy the other prong, of the two prong test. In the Office Action it is stated that "The claims, as amended..., provide a useful, concrete, and tangible result." (See Office Action, page 7, ¶ 1) Thus, it is acknowledged in the Office Action that the claims satisfy the useful, concrete, tangible prong of the two prong test. But, as to the other prong of the alleged two prong test, it is stated in the Office Action that "[a]lthough the claims recite technology, such technology is not applied in the method steps in a specific and non-trivial manner." More specifically, the Office Action characterizes Applicants' claims as including "trivial...technology". (See Office Action page 8) Thereafter, the rejection is summarized to read that "...the methods recited merely set forth an abstract idea which is held to be ineligible subject matter under 35 USC § 101" and, thus, fails to satisfy the technological arts prong of the two prong test. Finally, the Office Action characterizes other recited steps in the claims as mere "mental contrivances". (See Office Action page 9)

The Advisory Action, in response to Applicants' Reply To Office Action And Amendment of June 28, 2005 ("After Final Reply"), states that although the claims do include a specific recitation of an application of technology, that recitation does not amount to a non-trivial application of technology. More specifically, the Advisory Action states that the claim recitations effectively result in the placement of data into a memory, which activity is regarded as a trivial application of technology that does not toll the statute in view of the two prong test applied in the Office Action. Unfortunately, the Advisory Action does not cite any authority for the assertion that such technology recitation is trivial.

The Amendments

While Applicants are of the opinion that Applicants' claims do in fact involve a specific and non-trivial application of technology and set forth more than a mere abstract idea as written, Applicants have amended the claims to further clarify the subject matter of the claimed invention. Applicants' claims 15 and 45 are amended herein to recite that the data processing methods involve a specific and non-trivial use of a computer network for converting data in a relatively complex and useless form to consumers, to valuable information that is meaningful and readily understandable to consumers.

Applicants' Response To The Rejection

Applicants respectfully assert that the rejection under 35 USC § 101 is improper, for several reasons. First, the rejection runs afoul of a recent Board of Patent Appeals and Interferences (BPAI) decision. Second, the "two prong" test set forth in the Office Action is invalid because it is unsupported by, and contrary to, controlling Constitutional, statutory, and case law. Third, the invention as claimed satisfies the requirements of the controlling Constitutional, statutory, and case law. Fourth, notwithstanding the invalidity of the two prong test, the invention as claimed satisfies the "technological arts" prong set forth in the Office Action.

The Rejection Is Overruled By *Ex Parte Lundgren*

First, the BPAI of the United States Patent and Trademark Office recently determined in a precedential and binding opinion that there is no judicially recognized separate "technological arts" test to determine patent eligible subject matter under § 101 and the Board

declined to create one.<sup>1</sup> Therefore, it is apparent that the § 101 rejection can not be sustained in light of this binding and precedential Board opinion.

There Is No Valid Binding Support In Our Legal System For The Rejection

Second, controlling law does not support and, in fact, explicitly contradicts the “technological arts prong” of the “two prong” test set forth in the Office Action. At the highest level of our legal system, our Constitution gives Congress the power “[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries”.<sup>2</sup> This clause empowers Congress to make patent and copyright laws. So, if the “useful arts” is interpreted to mean “technological arts”, then the Constitution apparently authorizes copyright protection only for writings related to science and the technological arts. Applicants assert that it is not likely that the drafters of our Constitution intended such an absurd result. Accordingly, the equation of “useful arts” with “technological arts” is likewise illogical.

Furthermore, nowhere in our Constitution is there any requirement that an invention must be within “technological arts” to be patentable. In carrying out the Constitutional power, Congress enacted 35 USC § 101 to authorize a patent grant to “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.” Nowhere in § 101 is there any requirement that an invention must be within “technological arts” in order to be worthy of a patent grant.

Our case law does not support a separate, independent “technological arts” test either. Addressing first the authority relied upon in the Office Action, the *In re Toma* Court did not establish a “technological arts” requirement – in fact, the Court dismissed it. The *Toma*

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<sup>1</sup> See *Ex parte Lundgren*, UNPUBLISHED AS OF 10/17/2005 (Pat. & Trademark Off. Bd. Pat. Intf. 2005) *per curiam*. In good faith, Applicants hereby submit a copy of this case, which was obtained from <http://www.bustpatents.com/lundgren.doc> on 10/17/2005.

Court, which included Judges Rich and Baldwin, stated that "...[language from *Musgrave*, *In re Benson*, and *McIlroy* cited by the examiner] ...was not intended to form a basis for a new § 101 rejection as the examiner apparently suggests. To the extent that this 'technological arts' rejection is before us, independent of the rejection based on *Benson*, it is also reversed."<sup>3</sup> (emphasis added) Thus, contrary to the characterization in the Office Action that the *In re Toma* Court "...developed a 'technological arts' analysis", the *Toma* Court specifically dismissed it, some eight years after it was erroneously raised by Judge Rich, as he later admitted.

Judge Rich had previously offered, *in dictum*, the phrase "technological arts" as another view of the term "useful arts" in his majority opinion in the 1970 *Musgrave* case. But Judge Baldwin dissented in that 1970 opinion and outlined the potential problems created by the majority opinion. Most notably, Judge Baldwin stated that "...first and foremost will be the problem of interpreting the meaning of 'technological arts.'"<sup>4</sup> Later, in 1972, the Court attempted to fix the problems identified by Judge Baldwin by stating, "[t]he phrase 'technological arts,' as we have used it, is synonymous with the phrase 'useful arts' as it appears in Article I, Section 8 of the Constitution."<sup>5</sup> The great and humble Judge Rich filed a concurring opinion attempting to mitigate the damage caused by his introduction of the phrase "technological arts" by declaring as follows:

As the originator of that "test" in *In re Musgrave*..., I hereby express my agreement with the above-quoted statement. The phrase "useful arts" which was written into the Constitution conjures up images of the Franklin stove, horse collars, and buggy whips. The term "technological arts" was selected in *Musgrave* as probably having a connotation in these times roughly equivalent to that which "useful arts" had in the

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<sup>2</sup> U.S. Const. Art. I, § 8, cl. 8.

<sup>3</sup> *In re Toma*, 575 F.2d 872, 878 (CCPA 1978).

<sup>4</sup> *Id.* at 291

<sup>5</sup> *In re Waldbaum*, 173 USPQ 430, 434 (CCPA 1972).

eighteenth century. No new legal concept was intended. In fact, in *Musgrave* it was coupled with reference to the “useful arts” provision in the Constitution. Again in *In re Benson*,...when the same test was applied, the question asked was whether the process was not “in the technological or useful arts.” Now we have come full circle in pointing out that the intention all along has been to convey the same idea and to occupy whatever ground the Constitution permits with respect to the categories of patentable subject matter named in section 101.<sup>6</sup>

Thus, Judge Rich’s intention was clear; to use a phrase synonymous to “useful arts,” as stated in the Constitution, without creating any new legal requirement.

In summary, Applicants respectfully submit that neither is the “technological arts” requirement a separate, individual legal requirement, nor is its supposed sub-requirement that technology be applied in a specific and non-trivial manner. Simply put, “technology” and “non-triviality” do not amount to a valid legal test in analyzing utility under § 101. The § 101 rejection is thus improper, and Applicants respectfully request reconsideration and withdrawal of the § 101 rejection.

Applicants’ Interpretation And Application Of The Law Of Statutory Utility Under § 101

Third, Applicants’ interpretation of the utility requirement is different from that set forth in the Office Action, and such interpretation is affirmatively supported by the Constitution, the Patent Act, and patent case law. As interpreted by the Federal courts, 35 U.S.C. § 101 has two purposes. First, § 101 defines which categories of inventions are eligible for patent protection. An invention that is not a machine, an article of manufacture, a composition, or a process cannot be patented.<sup>7</sup> Second, §101 serves to ensure that patents are granted on only those inventions that are “useful.” This second purpose has a Constitutional footing—Article I, Section 8 of the Constitution authorizes Congress to provide exclusive rights

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<sup>6</sup> Id. at 435

to inventors to promote the “useful arts.”<sup>8</sup> Thus, to satisfy the requirements of §101, an applicant must claim an invention that is statutory subject matter and must show that the claimed invention is “useful” for some purpose. In applying the Constitutional power in the Patent Act, Congress provided that patents may be granted for “...useful...” inventions.<sup>9</sup> In interpreting this Congressional provision, the U.S. Supreme Court has stated that it is an indisputable proposition “...that one may patent only that which is ‘useful’” and that the term is “...pregnant with ambiguity...”.<sup>10</sup>

But despite the term’s ambiguity in the abstract, it is generally understood that the statutory utility requirement excludes those inventions that do not perform some function that benefits society, such as inventions that are inoperable, immoral, or contrary to public policy.<sup>11</sup> The Patent Office’s Manual of Patent Examining Procedure (MPEP) has also interpreted the utility requirement, stating that the “...claimed invention as a whole must accomplish a practical application” and that the “...purpose of this requirement is to limit patent protection to inventions that possess a certain level of ‘real world’ value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research”.<sup>12</sup>

Applicants claimed invention benefits society by providing real world value. More specifically, Applicants’ claimed invention is a data processing method using a computer network that is put to use for the end purpose of converting reams of relatively meaningless

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<sup>7</sup>See *Diamond v. Chakrabarty*, 447 U.S. 303, 206 USPQ 193 (1980); *Diamond v. Diehr*, 450 U.S. 175, 209 USPQ 1 (1981).

<sup>8</sup>See *Carl Zeiss Stiftung v. Renishaw PLC*, 945 F.2d 1173, 20 USPQ2d 1094 (Fed. Cir. 1991).

<sup>9</sup> 35 U.S.C. § 101 (2004).

<sup>10</sup> *Brenner v. Manson*, 383 U.S. 519, 528-529.

<sup>11</sup> See Patent Prosecution: Practice and Procedure Before the U.S. Patent Office, 3rd ed., BNA, 2003.

<sup>12</sup> MPEP 2106; See also *Nelson v. Bowler*, 626 F.2d 853, 856, 206 USPQ 881, 883 (CCPA 1980) (“Practical utility” is a shorthand way of attributing “real-world” value to claimed subject matter. In other words, one skilled in the art can use a claimed discovery in a manner which provides some immediate benefit to the public.”).

vehicle environmental performance data into meaningful and readily understandable information for use by consumers as an aid in their selection of a vehicle for purchase and by vehicle manufacturers to facilitate awareness of their vehicles through advertising. In other words, Applicants' claimed invention involves receiving relatively useless raw data as input, processing the raw data using the recited novel and nonobvious method steps, and transmitting useful information in the form of top performing vehicles for selection by consumers as output. Moreover, Applicants' touted such usefulness in their specification: "The creation of the environmental performance ratings in a timely manner at the brand/model level, rather than the certification vehicle configuration level is a non-trivial matter." (See Applicants' Specification, P. 4, ll. 15-18) Hence, Applicants' claimed invention is useful and, thus, is consistent with the broad literal meaning of the Constitutional and statutory requirements.

The claimed invention also satisfies the requirements set forth in case law interpreting the statutory requirement of 35 USC § 101. The U.S. Supreme Court has construed § 101 broadly, never addressing the phrase "technological arts", and instead stating that Congress intended statutory subject matter to "include anything under the sun that is made by man."<sup>13</sup> A year later in 1981, the Supreme Court specifically noted exceptions to the Chakrabarty holding, enumerating three categories of unpatentable subject matter: "laws of nature, natural phenomena, and abstract ideas."<sup>14</sup> In the Diehr case, the Supreme Court further held that mathematical algorithms *per se* are not patentable subject matter to the extent that they are merely abstract ideas, and that certain types of mathematical subject matter, standing alone,

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<sup>13</sup> *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980).

<sup>14</sup> *Diamond v. Diehr*, 450 U.S. 175, 185 (1981).



represent nothing more than abstract ideas until reduced to some type of practical application.<sup>15</sup>

That “practical application” has been interpreted by the Court of Appeals for the Federal Circuit to be something that yields “a useful, concrete and tangible result”.<sup>16</sup> The *State Street* Court held that “...the transformation of data, representing discrete dollar amounts,...through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces ‘a useful, concrete and tangible result’” in the form of the final share price. The Court made clear that such a result could be expressed in numbers, such as price, profit, percentage, cost, or loss.

Like the claims at issue in *State Street*, Applicants’ claims involve the transformation of data, representing raw vehicle environmental performance data, through a series of very specific, unique, and nonobvious process steps involving, *inter alia*, sales-weighting, classification, and ranking steps, into a final communication of top performing vehicles within vehicle utility classes. Thus, as with the claims at issue in *State Street*, here too, Applicants’ claims involve a practical application of a mathematical algorithm, formula, or calculation because they produce a useful, concrete, and tangible result in the form of establishing an internet website and using it over a computer network to communicate top performing vehicles within vehicle utility classes for use by consumers as an aid in their selection of a vehicle for purchase and by vehicle manufacturers to facilitate awareness of their vehicles through advertising.

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<sup>15</sup> *Id.*

<sup>16</sup> *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 47 USPQ2d 1596 (Fed. Cir. 1998), 149 F.3d at 1373, 47 USPQ2d at 1601-02 (quoting *In re Alappat*, 33 F.3d 1526, 1540-41, 31 USPQ2d 1545, 1554 (Fed.Cir.1994) (*en banc*)).

Also, the *State Street* Court stated that “it is improper to read limitations into § 101 on the subject matter that may be patented where the legislative history indicates that Congress clearly did not intend such limitations.”<sup>17</sup> Applicants are of the opinion that the § 101 rejection requirement to involve a specific application of technology in any non-trivial manner could be construed as an unwarranted limitation on § 101, contrary to Congressional intent.

The CAFC soon revisited the *State Street* decision in the *AT&T v. Excel* case, wherein the *AT&T* Court made clear that the § 101 analysis is the same regardless if the claimed subject matter is for an apparatus as it was in *State Street*, or for a method as it was in *AT&T*.<sup>18</sup> The claims at issue recited a broad method using the Boolean math principle to determine a value of an “indicator” of a telecom carrier, based on whether or not the carrier associated with a terminating telecom subscriber is within a given plurality of telecom carriers. The *AT&T* Court found the claims “comfortably...within the scope of § 101” because the claimed process applied the Boolean principle to produce a useful, concrete, tangible result without pre-empting other uses of the Boolean principle. Likewise, here, Applicants’ are applying, *inter alia*, a combination of novel and nonobvious sales-weighting, classification, and ranking steps to produce a useful, concrete, and tangible result that does not pre-empt other uses of those general principles of sales-weighting, classification, and ranking.

In summary, the statutory utility requirement is satisfied. Assuming, *arguendo*, that the claimed invention represents an abstract idea, it may nonetheless be patentable under §

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<sup>17</sup> *Id.*

<sup>18</sup> *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 50 U.S.P.Q.2d 1447 (Fed.Cir. 1999) (“We consider the scope of § 101 to be the same regardless of the form – machine or process – in which a particular claim is drafted. Thus, we are comfortable in applying our reasoning in *Alappat* and *State Street* to the method claims at issue in this case.”).

101 if it is reduced to a practical application as set forth by the Supreme Court in *Diehr*. Under *State Street* and *AT&T*, a practical application may be a machine or process that yields a useful, concrete, and tangible result. Again, the claimed invention provides a useful, concrete, and tangible result in the form of the conversion of relatively useless raw data into useful information for use by consumers as an aid in their selection of a vehicle for purchase and by vehicle manufacturers to facilitate awareness of their vehicles through advertising. This result is achieved using specific novel and nonobvious method steps such as obtaining environmental performance values for environmental performance data components by vehicle configurations; developing environmental performance scores for vehicle models by sales-weighting the environmental performance values of the environmental data components by forecasts of sales of the vehicle configurations; ranking vehicles by comparing the environmental performance scores of the vehicle models in vehicle utility classes to identify top performers of vehicle models in the vehicle utility classes; and communicating the top performers to aid consumers in their vehicle purchasing decisions. Moreover, it is a matter of record that the Applicants' claimed invention provides a useful, concrete, and tangible result.<sup>19</sup> Therefore, Applicants respectfully assert that their claimed invention satisfies 35 USC § 101 under a detailed view of the controlling law.

Applicants' Claimed Invention Satisfies The Invalid Two-Prong Test

Finally, Applicants' claims 15 and 45 involve a specific application of technology in a non-trivial manner. First, as the Office Action recognizes, "...the claims recite technology,..."<sup>20</sup> Applicants respectfully assert as a matter of sound logic that if the claims involve technology, then they must be within the technological arts. Applicants respectfully assert that there is no valid legal authority for a separate technological arts test, much less any

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<sup>19</sup> See Office Action page 7, first paragraph ("The claims...provide a useful, concrete, and tangible result.").

sub-tests thereof that require "technological specificity" or "technological non-triviality", despite the assertions in the Office Action and Advisory Action.

In summary, the two prong test is not supported by current law, and Applicants' claimed invention yields a useful, concrete, and tangible result. Thus, Applicants' claimed invention satisfies the utility requirement under § 101 and, thus, is directed to statutory subject matter. Accordingly, reconsideration and withdrawal of the rejections of claims 15-57 under 35 U.S.C. § 101 is respectfully requested.

### **III. CONCLUSION**


In view of the foregoing remarks, the Applicants respectfully submit that the pending independent and dependent claims are in proper form, define patentably over the cited references, and are all allowable. Applicant, therefore, respectfully requests that the Examiner's rejections under 35 U.S.C. § 101 be reconsidered and withdrawn and that a formal and timely Notice of Allowance of the application be issued.

The undersigned hereby respectfully requests a telephone interview with the Examiner to enable an attempt to be made to resolve any remaining issues. Please grant any required extensions of time and charge any fees due in connection with this request to deposit account no. 50-0852.

Respectfully submitted,

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<sup>20</sup> Office Action page 7, third paragraph.